

REMARKS

Claims 26, 27, 29, 30, 32-46, 48-55 and 57-92 are pending in the Application. Claims 40, 42-45 and 49 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith (U.S. Patent No. 5,435,400) in view of Stanley (U.S. Patent No. 5,411,104) and the Underbalanced Drilling Manual. Claims 40, 41, 46, 48, 50 and 61 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mueller et al. (U.S. Patent No. 5,355,967) in view of Stanley and the Underbalanced Drilling Manual. Claims 40, 42, 43, 51 and 52 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Allen (U.S. Patent No. 4,134,463) in view of Stanley and the Underbalanced Drilling Manual. Claims 26, 27, 29, 30, 32-39, 53-55, 57-60, 62-73, 75, 79, 83 and 90-92 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith in view of Stanley and the Underbalanced Drilling Manual. Claims 74, 77, 78, 81, 82, and 85 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith in view of Stanley and the Underbalanced Drilling Manual as applied to claims 26, 35, and 54 above, and further in view of Murray (U.S. Patent No. 5,785,133). Claims 26, 35, 76, 54, 80 and 84 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Stanley in view of Campbell (U.S. Patent No. 3,534,822) and the Underbalanced Drilling Manual. Claims 86-88 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Stanley in view of Murray (U.S. Patent No. 5,785,133), Campbell (U.S. Patent No. 3,534,822) and the Underbalanced Drilling Manual.

Applicant amends claims 26, 35, 39, 40, 53, 54, 58, and 78 and cancels claims 36, 67, 74, and 82. Applicant respectfully requests reconsideration of the Application in view of the amendments and remarks herein.

Claim Rejections – 35 U.S.C. § 103(a)

Smith in view of Stanley

Claims 40, 42-45 and 49 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith in view of Stanley and the Underbalanced Drilling Manual. Claims 26, 27, 29, 30, 32-39, 53-55, 57-60, 62-73, 75, 79, 83 and 90-92 are also rejected under 35 U.S.C. § 103(a) as

being unpatentable over Smith in view of Stanley and the Underbalanced Drilling Manual. Claims 74, 77, 78, 81, 82, and 85 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith in view of Stanley and the Underbalanced Drilling Manual as applied to claims 26, 35, and 54 above, and further in view of Murray (U.S. Patent No. 5,785,133).

Applicant respectfully traverses these rejections for at least the following reasons.

Applicant respectfully submits that the combination of Smith, Stanley, and the Underbalanced Drilling Manual is improper. The proposed combination suggests that one of ordinary skill in the art would modify the method described by Smith to use underbalanced drilling in a coal formation as described by Stanley. The Examiner cites the Underbalanced Drilling Manual in asserting that "[a]lthough Stanley teaches that some coal seams may have problems when drilled with liquids, one of ordinary skill in the art would have known that underbalanced drilling would have eliminated or reduced those problems" (Office Action mailed September 26, 2006, p. 3). However, the Underbalanced Drilling Manual also discusses limitations to underbalanced drilling, many of which are dependent on the properties of the formation being drilled (See Underbalanced Drilling Manual, e.g., Section 1.4). Rather than the Underbalanced Drilling Manual suggesting the modification of Smith's underbalanced drilling method be used in a coal formation, the limitations discussed by the Underbalanced Drilling Manual would discourage one of ordinary skill in the art from discarding Stanley's gas-based underbalanced drilling method, because Stanley suggests that its method is acceptable for drilling in coal. See, e.g., *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983) (It is improper to combine references where the references themselves teach away from their combination.). A reference teaches away if it "would likely discourage the art worker from attempting the substitution suggested by [the inventor/patentee]." *Gillette Co. v. S.C. Johnson & Son, Inc.*, 919 F.2d 720, 16 USPQ2d 1923 (CAFC 1990).

Furthermore, independent claim 26 is amended to include the limitations previously recited in dependent claim 74. In the pending Office Action, claim 74 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith in view of Stanley and the Underbalanced Drilling Manual and further in view of Murray. Applicant respectfully submits that the proposed

combination of four references goes beyond what would reasonably occur to one of ordinary skill in the art, and could only have been obtained through a detailed analysis of Applicant's disclosure. However, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention (*In re Fine*, 837 F.2d at 1075, 5 USPQ2d at 1600). Similarly, the mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification (*In re Gordon*, 221 U.S.P.Q. 1125, 1127).

Independent claims 35, 39, 40, 53, 54, and 90 are also amended to include similar limitations and are patentable for at least the same reasons. Accordingly, for at least this reason, Applicants respectfully request withdrawal of the rejections to claims 26, 27, 29, 30, 32-39, 40, 42-45, 49, 53-55, 57-60, 62-73, 75, 79, 83 and 90-92 under 35 U.S.C. § 103(a).

Mueller in view of Stanley

Claims 40, 41, 46-48, 50 and 61 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mueller et al. in view of Stanley and the Underbalanced Drilling Manual. Applicant respectfully submits that the combination of Mueller et al., Stanley, and the Underbalanced Drilling Manual is improper for at least the same reasons discussed above that the combination of Smith, Stanley, and the Underbalanced Drilling Manual is improper.

Moreover, as amended, independent claim 40 recites "wherein drilling the well bore comprises drilling a main horizontal bore and a plurality of lateral bores extending from the main horizontal bore". Applicant respectfully submits that neither Mueller nor Stanley, alone or in combination, teaches the claimed feature. Moreover, like Smith, Mueller is cited as teaching an underbalanced drilling system that uses liquid. Taken as a whole, Stanley teaches away from the use of liquid drilling fluid when drilling coal seams; and therefore, teaches away from combination with Mueller. Accordingly, for at least these reasons, Applicant respectfully requests withdrawal of the rejections to claims 40, 41, 46-48, 50 and 61 under 35 U.S.C. § 103(a).

Allen in view of Stanley

Claims 40, 42, 43, 51 and 52 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Allen in view of Stanley and the Underbalanced Drilling Manual. Applicant respectfully submits that the combination of Allen., Stanley, and the Underbalanced Drilling Manual is improper for at least the same reasons discussed above that the combination of Smith, Stanley, and the Underbalanced Drilling Manual is improper.

Moreover, as amended, independent claim 40 recites “wherein drilling the well bore comprises drilling a main horizontal bore and a plurality of lateral bores extending from the main horizontal bore”. Applicant respectfully submits that neither Allen nor Stanley, alone or in combination, teaches the claimed feature. Like Smith, Allen is cited as teaching an underbalanced drilling system that uses liquid. Taken as a whole, Stanley teaches away from the use of liquid drilling fluid when drilling coal seams; and therefore, teaches away from combination with Allen. Accordingly, for at least this reason, Applicants respectfully request withdrawal of the rejections to claims 40, 42, 43, 51 and 52 under 35 U.S.C. § 103(a).

Stanley in view of Campbell

Claims 26, 35, 76, 54, 80 and 84 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Stanley in view of Campbell and the Underbalanced Drilling Manual. Claims 86-88 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Stanley in view of Murray and Campbell and the Underbalanced Drilling Manual. Applicant respectfully submits that the combination of Stanley, Campbell, and the Underbalanced Drilling Manual, alone or in further combination with Murray, is improper for at least the same reasons discussed above that the combination of Smith, Stanley, and the Underbalanced Drilling Manual is improper.

Moreover, as amended, independent claim 26 recites “a plurality of lateral well bores in the coal seam off of the substantially horizontal well bore”; claim 35 recites “a horizontal bore and a horizontal drainage pattern extending from the horizontal bore”; and claim 54 recites “drilling a plurality of lateral well bores from the substantially horizontal well bore”. Applicant

respectfully submits that neither Stanley nor Campbell, alone or in combination, teaches the claimed feature. Moreover, Campbell is cited as teaching an underbalanced drilling system that uses liquid foam. Stanley teaches away from the use of liquid drilling fluid when drilling coal seams; and therefore, teaches away from combination with Allen. Accordingly, for at least these reasons, Applicants respectfully request withdrawal of the rejections to claims 26, 35, 76, 54, 80 and 84 under 35 U.S.C. § 103(a).

Information Disclosure Statement

An Information Disclosure Statement is submitted herewith.

Conclusion

For at least the reasons discussed above, Applicant respectfully submits that the claims are in condition for allowance, and requests such a Notice. If the present Application is not allowed and/or if one or more of the rejections is maintained or made final, Applicant hereby requests a telephone conference with the Examiner and further requests that the Examiner contact the undersigned attorney to schedule a telephone conference.


Enclosed is our check in the amount of \$450 for the Petition for Extension of Time fee and \$180 for the submission of the enclosed Information Disclosure Statement. Please apply any deficiencies or any other required fees or any credits to deposit account 06-1050, referencing the attorney docket number shown above

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Respectfully submitted,

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